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ABSTRACT

Peace education research typically is designed to evaluate the effects of a single lesson or a group of lessons (unit) on some attitudinal or learning outcomes. The current research was designed to evaluate a set of procedures for identifying a mix of peace education lessons that desirably impact on students. Three curriculum consultants were employed to review and rate more than 300 commercially available lessons in terms of the expected impact of each lesson on four psychological constructs: ethnocentrism, political efficacy, conflict resolution skills, and prosocial orientation. Subsequently, the most highly rated lessons for each construct were assembled into four curricula (units) and then field tested with a sample of 1,398 eighth through twelfth grade students. Students were assigned to one of the curriculum groups or to a no-curriculum control group. Measures of the four psychological constructs were administered in a pre-posttest fashion. Critical thinking, political orientation (liberal-conservative) and other measures were also obtained. Results indicated that while all the psychological measures were affected by some of the lessons, curriculum consultants were unable to predict which particular measures would be affected by which particular lessons. Since well-trained and experienced curriculum consultants were unable to predict the impact of lessons on students, the results suggest that the outcomes of peace education instruction should be carefully evaluated. Psychologists and the emerging field of peace psychology can make a major contribution to peace education. A collaborative relationship between psychologists and peace educators is recommended with psychologists developing tools for measurement, assisting in program design and analysis, and providing theory guided peace education content. A list of 28 references is included. (Author)

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The Measurement of Psychological Constructs in Peace Education

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The Measurement of Psychological Constructs in Peace Education

Abstract

Peace education research typically is designed to evaluate the effects of a single lesson or a group of lessons (unit) on some attitudinal or learning outcomes. The current research was designed to evaluate a set of procedures for identifying a mix of peace education lessons that desirably impact on students. Three curriculum consultants were employed to review and rate more than 300 commercially available lessons in terms of the expected impact of each lesson on four psychological constructs: ethnocentrism, political efficacy, conflict resolution skills, and prosocial orientation. Subsequently, the most highly rated lessons for each construct were assembled into four curricula (units) and then field tested with a sample of 1,398 eighth through twelfth grade students. Students were assigned to one of the curriculum groups or to a no-curriculum control group. Measures of the four psychological constructs were administered in a pre-posttest fashion. Critical thinking, political orientation (liberal-conservative) and other measures were also obtained. Results indicated that while all the psychological measures were affected by some of the lessons, curriculum consultants were unable to predict which particular measures would be affected by which particular lessons. Since well-trained and experienced curriculum consultants were unable to predict the impact of the lessons on students, the results suggest that the outcomes of peace education instruction should be carefully evaluated. Psychologists and the emerging field of peace psychology can make a major contribution to peace education. A collaborative relationship between psychologists and peace educators is recommended with psychologists developing tools for measurement, assisting in program design and analysis, and providing theory guided peace education content.

The Measurement of Psychological Constructs in Peace Education

In the 1980s, American educators witnessed a proliferation of initiatives promoting classroom instruction about nuclear weapons and related issues. Highly regarded journals including American Journal of Orthopsychiatry, International Journal of Mental Health, Physics Today, Teachers College Record, Harvard Educational Review, Bulletin of the Atomic Scientists, and many others published special issues about nuclear war education. The National Congress of Parent-Teacher Associations and the National Education Association passed resolutions and supported actions in favor of nuclear education, and many school boards in major cities added their endorsements. Groups like Educators for Social Responsibility (ESR) were organized to promote the development of curricula and programs about nuclear issues. In five years, ESR added 10,000 members and 100 chapters in 36 states.

These educational initiatives were largely a product of increased superpower tensions and attendant changes in public perceptions of the threat of nuclear war in the first half of the decade. Concerned educators believed that the introduction of curricula about nuclear weapons could serve as a catalist to educate citizens and promote democratic processes. Some educators shared with peace activists the expectations expressed by Markusen and Harris in the Harvard Educational Review that education would "help identify and dislodge the forces of nuclearism" and increase support "for alternative national security policies

that are less likely than present ones to lead to nuclear war (Markusen & Harris, 1984)."

Educators are justifiably concerned about public ignorance regarding nuclear issues. Citizens know very little about nuclear weapons, the history of the arms race, and related government policies (Zweigenhaft, 1984). And what they think they know is often incorrect. For example, a study in 1984 by the Public Agenda Foundation indicated that 81% of Americans mistakenly believe it is U.S. policy to use nuclear weapons "if, and only if, the Soviets attack the U.S. first with nuclear weapons (Yankelovich, Kingston, & Garvey, 1984)."

As educators sought to develop and introduce curricula, psychologists were primarily involved in the assessment of children and adolescents reactions to the threat of nuclear war (for a review see Christie & Toomey, 1990). Studies have been completed in several countries and taken together they suggest that children are aware of the threat of nuclear war and are concerned about the possibility of nuclear war (Beardslee & Mack, 1982; Chivian, Mack, Waletsky, Lazaroff, Doctor & Goldenring, 1985; Escalona, 1982; Goldberg, LaCombe, Levinson, Parker, Ross & Sommers, 1985; Goldenring & Doctor, 1983; Schwebel, 1982). Although the psychological reactions of youth to the threat of nuclear war vary across individuals and countries, several reactions are quite common: fear, powerlessness, helplessness, and denial. In responding to the mental health implications raised by such findings, the most consistent intervention advocated by professionals is education.

While it has been suggested that nuclear war education may have a number of desirable effects on the mental health of youth, the most frequent exhortation about the value of nuclear war education takes the form of an argument that posits a relationship between ignorance and fear (Beardslee & Mack, 1982; Becker, 1983, September; Goldenring & Doctor, 1983). As participants in the American Psychiatric Association's Task Force on Psychosocial Aspects of Nuclear Developments, Beardslee and Mack (1982) discussed the implications of their work with children and adolescents in the following way: "We need to educate our children to the realities of nuclear...weaponry so that they can be helped to overcome at least that aspect of fear which derives from ignorance and which leaves them feeling so powerless" (p. 91).

Similarly, when Goldenring and Doctor (1983) offered testimony to the House of Representatives Select Committee on Children, Youth and Families, they stated that, "There appears to be a communication gap which adolescents are filling with fear instead of hope. This is occurring because we are not talking to youth about the nuclear threat and we are not convincing them by word and deed that there is hope for their future. And like other topics...the threat of nuclear war is ignored in the home and in the classrooms with the result being misinformation, despair, unwarranted fantasies and sometimes acting-out behavior."

Not everyone agrees with those who would like to see education deal with the nuclear issue. President Reagan captured the views of people who opposed the new educational initiatives when,

in a June 1983 speech, he referred to "curriculum guides that seem to be more aimed at frightening and brainwashing American school children than at fostering learning and stimulating balanced, intelligent debate (Shribman, July 6, 1983).

A major target for those who opposed nuclear education was a manual called "Choices: A Unit on Conflict and Nuclear War," which was developed by the Union of Concerned Scientists and the National Education Association in 1983. Albert Shanker, President of the American Federation of Teachers, said that "Choices" was "lopsided propaganda" (McGrory, June 25, 1983). Gary Bauer, Deputy Undersecretary of the Department of Education, claimed that the unit pandered to and encouraged fear and was essentially "leftist indoctrination aimed at turning today's elementary students into tomorrow's campus radicals (McGrory, 1983, July)."

Proponents of "Choices" argue that political indoctrination of the right wing genre already pervades American education (Berman, 1983). Others argue that the content of "Choices" redresses the tendency of traditional textbooks to ignore the world views of other nations (Jacobson, Reardon & Sloan, 1983).

With regard to the unit's impact on fear, John Mack's view as expressed in the foreward to the unit would seem to be in direct opposition to critics who charge that the unit creates fear: "Choices will help young minds visualize and experience the nuclear reality in a way that is not threatening.... Having grasped the truth...action that will set us free will follow" (Union of Concerned Scientists, 1983).

It seems likely that the discrepancy between arguments ex-

pressed by proponents and opponents of nuclear education, and of "Choices" in particular, is largely due to political differences (biases) rather than any sound empirical evidence regarding the psychological impact of the unit. Few would argue that educating students about nuclear weapons and the arms race is not a worthwhile objective in view of the gravity of such issues for human survival. Yet, some school boards and teachers have resisted the introduction of curricula about nuclear weapons because of concerns about potentially harmful effects. If instruction increases students' anxieties or causes uncritical acceptance of proposals for reducing the threat of nuclear war, there would be reason to resist these initiatives (Nelson & Christie, 1988).

On the other hand, if instruction reduces misconceptions about nuclear issues and increases students' faith in the efficacy of political involvement, there would be reason to support these programs. Ideally, instruction would inform and empower students without indoctrinating them and without adding to their anxiety about the possibility of nuclear war. However, to date, there have been only a few attempts to assess, in a careful and systematic way, the impact of instruction on students.

To this end, the Ohio Department of Mental Health supported a broad based study that was conducted in Ohio with 1,518 sixth, seventh, and eighth grade students enrolled in Catholic and public schools (Christie, 1986). The research was carried out in Spring 1986 and involved 42 classroom teachers and 67 classes of students. Teachers used "Choices: A Unit on Conflict and Nuclear War" which was presented over a two week period. At the

beginning and end of the unit, all of the students completed an inventory that assessed levels of fear, powerlessness, and futurelessness along with a questionnaire that yielded information about students attitudes toward the arms race and American-Soviet relations.

Another broad based series of studies has involved samples of college students (Nelson, 1988). A total of 758 undergraduates at California Polytechnic State University have served as participants in research conducted by Linden Nelson, Charles Slem, and Lars Perner. Most of the students were enrolled in one of 16 classes that received instruction about nuclear weapons issues. Some students were in classes where they heard either one or seven lectures about the psychology of the nuclear arms race. Others participated in full-length (30 hours) psychology, interdisciplinary, or physical science courses dealing exclusively with nuclear weapon issues. These classes were compared to control groups that did not receive instruction. All students completed a questionnaire at the beginning and end of a ten week academic quarter.

One conclusion that can be derived from these broad based studies on nuclear education is that some attitudes are highly malleable while others are quite resistant to change (Christie & Nelson, 1988). For instance, both college and middle school students' attitudes toward the Soviets were very changeable. At the college level, even brief exposure to information about Soviet behavior in the arms control arena was sufficient to persuade students that the Soviets really desire meaningful arms

control agreements, and that they tend to comply with such agreements. Perhaps students were particularly receptive to evidence on this issue because of their initially exaggerated perceptions of Soviet perversity and their lack of previous exposure to Soviet perspectives and actions on arms control.

Similarly, attitudes of younger adolescents toward the Soviets also were highly malleable. After participating in the two-week course on conflict and nuclear war, the sixth to eighth graders were less likely to agree with the statement that "Russians are the bad guys and Americans are the good guys;" instead, they moved toward assigning equal responsibility for the nuclear predicament. They also moved toward assigning equal resonsibility for there being "so many nuclear weapons in the world."

Some attitudes assessed in university level students were resistant to change. Students usually held fast to the importance they attached to nuclear weapon superiority, except when exposed to courses which addressed this issue in depth. Only then did they become slightly less concerned about superiority. Students' estimates of "the likelihood of nuclear war if the arms race continues" sometimes increased and sometimes decreased, but rarely changed very much as a result of instruction (Nelson, 1988).

In general then, the results show that teachers can be influential in shaping students' attitudes toward the Soviets and about nuclear weapon issues. Of course, the direction and amount of attitude change probably depends to a large extent on the information the instructor chooses to present. Whether or not

students' beliefs are uninformed or misinformed also seems to matter, as does the degree to which teachers present credible evidence that clearly contradicts students initial beliefs.

In addition to the assessment of change in political attitudes, the emotional impact of teaching about nuclear issues is of interest to educators and psychologists. The most consistent finding in this regard is that instruction rarely increases students' fear or worry about nuclear war. Among sixth to eighth graders, significant decreases in fear were observed in 42 out of 67 classes that experienced the "Choices" curriculum (Christie, 1986). Classes that received instruction became less fearful of the threat of nuclear war and more disposed to believe that "nuclear war between the United States and Russia can be prevented." Contrary to what would-be detractors of nuclear war education maintain, instruction does not generally incite fear, but instead often reduces fear.

Only a few other studies have empirically investigated the effects of nuclear war education: one study by Shelley Berman examined the impact of an educational unit on high school students in Pittsburgh; another one by edwin Zolik and Dev Nair evaluated the impact of a unit on ninth graders in Brookline, Massachusetts. These studies yielded results that were consistent with the studies already described herein: levels of anxiety did not increase, and students became more convinced that something could be done to prevent nuclear war.

Only one study has yielded results somewhat contradictory to those already mentioned. Daniel Mayton at Lewis Clark State

College in Idaho examined the effects of a forty-hour, one-week course, "Nuclear War: Its Impact and Consequences" on students. A post-test at the end of the fifth day showed that students had increased in worry about nuclear war, favorability toward arms control, and intention to act in support of a nuclear freeze. The immediacy of the post-test and the intensiveness of the course were probably important factors that affected the outcomes of this study.

In summary, there is little doubt about the potential of nuclear war education to affect students attitudes about nuclear weapon issues in various ways. Research thus far suggests that some of these attitudes are more likely to change than others. Taken together, the results of studies on the impact of nuclear war education lead to the conclusion that it is possible to teach about nuclear weapon issues in a responsible way that can empower students, without indoctrinating them and without inciting fear. Indeed, as students become more aware of nuclear issues, their fear tends to diminish. There remains, however, the larger issue as to whether or not fear is an appropriate response to the nuclear dilemma and whether or not psychologists ought to use their skills in the service of fear reduction. Afterall, it was not long after World War II that psychologists began conducted studies to reduce soldiers' anxiety levels and their reluctance to participate in atomic maneuvers (Rand, 1960; Schwartz & Winograd, 1954), a practice that bears some resemblance to educational interventions that reduce childrens' fear of nuclear war.

Although the aforementioned studies include large and

diverse samples of teachers and students, many questions about the generality of the results remain unanswered. The subject of nuclear war can be taught from many perspectives and with a variety of methods. Further research is needed in order to learn how variability in content and method of instruction relates to outcomes. The investigation that examined the impact of Choices, for example, involved only one package of lessons. Yet there are more than 35 commercially available curricula that fall under the rubric of nuclear war education, peace education, or world order studies. Accordingly, one purpose of the present research was to evaluate the psychological impact of a number of peace education lessons. In the first study, curriculum consultants were employed to rate lessons in terms of their expected impact on students. In the second study, selected lessons were field tested and their impact assessed.

Study I

Methods

Three peace educators served as consultants and collaborated with the Principal Investigator (PI) by evaluating more than 300 peace education lessons. The main objective was to select curricula that would have a desirable impact on selected psychological constructs. Rather than generate constructs and measuring instruments in an a priori way, it seemed preferable to have the curricula drive the psychological constructs. Accordingly, the curriculum consultants reviewed peace education lessons while the PI honed and operationalized psychological constructs in light of the the content of the curricula. Using

an iterative process in which each would provide feedback to the other about the goodness of fit between the content of the curricula and the psychological constructs, it was possible to move in successive approximations toward a convergence on a number of psychological constructs which corresponded to predominant themes in peace education: namely, ethnocentrism, political efficacy, conflict resolution skills, and prosocial orientation.

Curriculum consultants later used these constructs as a basis for rating and selecting peace education materials that they thought would desirably impact on the constructs if the materials were actually used for classroom instruction. In essence then, we first generated dependent variables (i.e., psychological constructs), selected lessons that were expected to impact on the variables, and later actually field tested the lessons on middle and high school students.

Procedures.

Curriculum consultants and the PI documented movement toward agreement on the predominant themes or constructs in peace education by writing drafts of a guide that would later be used by the consultants to select peace education lessons. The guide (a) described each psychological construct and (b) provided a number of rating scales corresponding to each constuct. Curriculum consultants were asked to use the final version of the guide to help them select from among more than 300 lessons, those lessons which they thought would be likely to impact on at least one of the four major psychological constructs of interest. Then, they

evaluated each chosen lesson with rating scales corresponding to the relevant psychological constructs. Since some lessons were written in a way that made them most effective when presented as part of a larger group of lessons, in some instances it was necessary to judge the impact of the lessons as a package, rather than evaluating each lesson separately. Accordingly, some decision rules had to be generated as to whether or not a unit or set of lessons would be broken down into its component parts or evaluated as a whole. In view of the time constraints under which classroom teachers would be operating, the consultants were instructed that the minimum number of lessons that should comprise a package was five and the maximum was approximately twenty five lessons per construct. Hence, the maximum length of time it would take a classroom teacher to present lessons that covered a particular construct would be five weeks (assuming one lesson was taught per day). As a general rule, whenever a lesson could "stand on its own," it was evaluated by itself without the inclusion of other lessons.

Other measures.

In addition to rating the lessons with respect to the four major measures, there were five additional measures that were taken. Although these "other measures" had no bearing on the selection process, curriculum consultants were asked to offer their ratings as to the likely effect of each lesson on each of the other measures; in particular, we were interested in the degree to which the lesson encouraged political activism, critical thinking, liberal viewpoints, hopefulness about the

future, and fear about the threat of nuclear war. Some pedagogical questions also were asked with respect to appropriate grade levels for the materials.

In short, instead of field testing whole curricula that are commercially available on the basis of some a priori measures, the current study was designed to construct an optimal mix of lessons that was likely to impact on specific psychological variables that are commonly found in peace educaton lessons: ethnocentrism, political efficacy, prosocial orientation, and conflict resolution skills.

Table 1 presents the peace education units that were rated most highly.

Insert Table 1 about here

Study 2

Fieldtesting

The recruitment materials were sent to a representative (stratified random) sample of approximately 300 public and private schools in Ohio. They were sent directly to principals of middle, junior high, and high schools. In addition, 42 teachers who participated in a previous project supported by the Ohio Department of Mental Health were sent recruitment materials. Completed application forms from 52 teachers were received. Applications were evaluated on the basis of teachers' experience using peace related educational curricula, the population they served (i.e., regular class, learning disabilities, developmentally handicapped, etc.), degree to which the materials

could be integrated into their regular classroom teaching, availability and willingness to have a comparable group of students serve as no-treatment controls, and degree to which they indicated administrative support for peace education. If chosen, teachers were obliged to partipate in two workshops, one prior to the actual adminstration of the curriculum materials, and another after administering the materials. Teachers were allowed to choose one of four tracks for training purposes: (1) a conflict resolution track that emphasized conflict analysis and leadership skills; (2) a track on the reduction of prejudice and ethnocentrism; (3) a track on ways of giving students a sense of political efficacy; or (4) a track that encouraged a prosocial value orientation. Twenty-six teachers from around the State of Ohio were selected to administer the lessons to their students.

Procedures

A total of 1,398 eighth through twelfth grade students participated in the study. Teachers administered a questionnaire to students prior to and after the presentation of lessons. Pre-test measures were subjected to a factor analysis and yielded a factor structure largely congruent with the psychological constructs of interest (viz., political efficacy, ethnocentrism, prosocial orientation, conflict resolution skills). Other factors that emerged included liberalism-conservatism, fear about the possibility of nuclear war, and cynical resignation or powerlessness. In addition, "integrative complexity" (Suedfeld,

1977) was used as a measure of critical thinking which was administered prior to and after the presentation of the curriculum materials.

Results

A number of gender differences emerged with females scoring higher than males on prosocial orientation ($p<.0001$), fear of nuclear war ($p<.0001$), liberalism ($p<.001$) and critical thinking ($p<.0001$). Males scored higher than females on ethnocentrism ($p<.0001$).

A subject selection bias was also obtained. Those students who received the curriculum scored higher on pretest measures of fear of nuclear war ($p<.05$) and levels of critical thinking ($p<.01$) than control students.

All of the psychological constructs that were used to select lessons were affected by the lessons. And while all changes were in the desired direction (e.g., decreases in ethnocentrism, increases in political efficacy, etc.), it was not usually the case that curriculum consultants correctly predicted which lessons would impact on which target variables.

When compared to the no-treatment controls, the ethnocentrism lessons significantly increased students reported levels of political efficacy ($p<.01$); both the lessons on political efficacy and on conflict resolution skills significantly reduced ethnocentrism ($p<.0001$) and enhanced prosocial orientation ($p<.01$). All of the lessons, except those dealing with political efficacy, impacted on conflict resolution

skills ($p<.01$). The only lesson that had a significant impact on critical thinking was the package of lessons on conflict resolution skills ($p<.001$).

Discussion

In general, the current research suggests that psychologists and educators can inform one another's work in peace education. While educators are typically well acquainted with developmental considerations, the research training of psychologists may be helpful in several specific ways: by honing objectives, providing tools for measurement, and by generating theory guided content.

First, with regard to objectives, the results of the present study indicate that commercially available peace education materials can impact on a number of psychological measures. However, it remains difficult to predict precise ways in which lessons will impact on psychological constructs. Indeed, in the present study, even though experts on peace education were employed, they were unable to anticipate ways in which specific lessons that would impact on specific psychological constructs. All of this argues for the importance of carefully evaluating the outcomes of peace education instruction.

In addition, the current study underscores some pitfalls in the evaluation of peace education. First, a problem that arose was subject selection bias. Even though it was possible to use experimental and control groups, apparently there was a

tendency for teachers to use the curricula with classes of students who were higher in fear and critical thinking skills than their control classes. This outcome was surprising because teachers were given some instruction in methodology during the first workshop. It was emphasized that random assignment of classes to experimental and control groups was very important.

Another difficulty arises from the present state of conceptual development in peace psychology, an area of psychology which would seem to be most relevant to the evaluation of peace education. Notwithstanding the relative youth of peace psychology in comparison to other more established fields of psychology, we are left with a conceptual muddle to sort out. How, for example, is the construct "political efficacy" distinguished from self-efficacy, empowerment, internality, mastery, leadership skills, and the like? The conceptual muddle is most apparent in the proliferate meanings of constructs like nuclear fear, anxiety, concern, and worry. It matters a great deal for example, if one asks males if they are concerned as contrasted with frightened about the prospect of nuclear war: concerned -- yes, frightened -- no! Females report they are both concerned and frightened.

And here we come to another problem that arises from the self-report approach that so many evaluation studies have adopted. Not only are there the usual problems associated with the self-report method, such as participants giving socially desirable answers to questions, but some objectives of peace

education seem more behavioral rather than cognitive or affective. When we use the term "conflict resolution," for example, are we referring to conflict analysis processes which may be roughly equivalent to critical thinking or does it make more sense theoretically and practically to use behavioral indices of conflict resolution skills? Moreover, it would seem desirable to use multiple indices of change but at present there is no research examining cognitive, affective, and behavioral measures of psychological constructs in peace education.

The present work underscores the importance of psychologists contributing to peace education efforts by developing objectives and tools to measure the degree to which these objectives are attained. Robert Mager's delightful fable about a sea horse who cantered out to find his fortune seems appropriate in this context. Aimlessly meandering about, the sea horse found himself taking a short cut into the interior of a shark where he was devoured. The moral is that if you're not sure where you're going, you're liable to end up someplace else - and not even know it (Mager, 1962)."

To date, the task of inventing curricula has been left to teachers. Yet, much of what has been invented could be improved by the generation of theory guided content. While teachers may be in the best position to judge the readability and other matters related to the appropriateness of curriculum materials, psychologists are in a good position to offer theories and concepts that can suggest suitable activities that are likely to produce desired outcomes. A rather large body of research in psychology, for example, addresses issues such as the reduction

of intergroup conflict or prejudice. While psychologists may have a conceptual muddle on our hands, the predicament for teachers is more analogous to a conceptual gulf.

At present, there is no neat prescription for the conceptual muddle and gulf problem. However, if we assume that nuclear war educators not only want to educate, that is to complicate students thinking about some of these issues, but also wish to contribute however modestly to the management or resolution of conflict and the nuclear threat, then it becomes important to consider psychological conditions that favor a reduction in the threat of nuclear war. One such condition that would seem to be both necessary and sufficient to reduce the threat is the construction of a relationship in which intentions toward one another are viewed as benign.

The quality of a relationship is paramount for one need only consider the relationship between the United States and Britain, two powerful states that could devastate each other's society with a nuclear attack. Yet, neither side fears the other since the relationship is sufficiently friendly. Indeed, the recent chages in the Cold War climate persuasively argue for the value of "improved relations," as a means of providing preconditions for the reduction of weaponry. What I am suggesting is that it is worthwhile to place nuclear war education in the larger context of relationships at various units of analysis, from interpersonal to international. Psychologists have scarcely begun to consider, not to mention operationalize, the nature of changes that occur when a relationship is moving in a

constructive direction. Yet, measurement of the quality and prevailing direction of a relationship would seem to be a necessary prerequisite for careful and systematic evaluation of the outcomes of peace education. If we used traditional categories of psychological analysis (i.e., cognition, affect, and behavior) we could begin by developing the tools to evaluate ways in which actors in a relationship conceptualize one another, behave towards one another and feel about one another. In short, what I am arguing for is the value of conceptualizing peace education as a relationship based enterprise, where self-interest, cutting a deal, and managing a conflict are viewed as secondary to processes that build a constructive, long-term relationship. Such an approach is not unlike what Dick Wagner has referred to as "positive peace approaches" (Wagner, 1988) or what Paul Kimmel (1985) has described as peacebuilding as contrasted with peacekeeping. Among the most important challenges for the newly emerging discipline of peace psychology is the articulation of theory and measurement tools that can inform efforts to practice peace education.

References

Beardslee, W. R., & Mack, J. E. (1982). The impact on children and adolescents of nuclear developments (Task Force Report No. 20). Washington, DC: American Psychiatric Association.

Becker, S. (1983, September). Helping children think about the unthinkable. Instructor, 86-89.

Berman, S. (1983). A break in the silence: Raising nuclear issues in the schools. Social Education, 47(7), 501-503, 556.

Chivian, E., Mack, J. E., Waletsky, J. P., Lazaroff, C., Doctor, R., & Goldenring, J. M. (1985). Soviet children and the threat of nuclear war: a preliminary study. American Journal of Orthopsychiatry, 55(4), 484-502.

Christie, D. J. (1986). The psychological impact of an educational unit about conflict and nuclear war on adolescents. New Research in Mental Health: 1986-1987 Biennium, 83-91. Ohio Department of Mental Health, Columbus, Ohio.

Christie, D. J. & Nelson, L. (1988). The psychological impact of nuclear war education: fear, indoctrination, or empowerment? Bulletin of the Atomic Scientists. 44(6), 22-23.

Christie, D. J. & Toomey, B. G. (1990). The stress of violence: school, community and world. In E. Arnold (Ed.). Childhood Stress, New York: John Wiley and Sons.

Escalona, S. K. (1982). Growing up with the threat of nuclear war: Some indirect effects on personality development. American Journal of Orthopsychiatry, 52(4), 600-607.

Fisher, R. (February, 1987). What would a good U.S.-Soviet relationship look like? And how do we negotiate one? A Plenary Lecture presented at the AAAS Annual Meeting, Chicago.

Goldberg, S., LaCombe, S., Levinson, D., Parker, K. R., Ross, C., & Sommers, F. (1985). Thinking about the threat of nuclear war: relevance to mental health. American Journal of Orthopsychiatry, 55(4), 503-512.

Goldenring, J. & Doctor, R. (1983). Testimony for the House of Representatives select committee on children, youth, and families. Adolescent concerns about the threat of nuclear war. Loyola Marymount University, Los Angeles, CA.

Harter, S. (1982). The perceived competence scale for children. Child Development, 53, 87-89.

Jacobson, W., Reardon, R., & Sloan, D. (1983). A conceptual framework for teaching about nuclear weapons. Social Education, 47(7), 475-479.

Kimmel, P. R. (1985). Learning about peace: Choices and the U.S. Academy of Peace as seen from two different perspectives. American Psychologist, 40, 536-541.

Mager, R. F. (1962). Preparing instructional objectives, Belmont, California: Fearson Publishers.

Markusen, E., & Harris, J. B. (1984). The role of education in preventing nuclear war. Harvard Educational Review, 54(3), 282-303.

McGrory, M. (June 15, 1983). White House cool on teaching about nuclear war. Syndicated column.

Nelson, L. (1988). Influencing enemy perceptions and nuclear policy options with educational interventions. Presented at the annual convention of American Psychological Associaton, Atlanta, Georgia, August 12-16, 1988.

Nelson, L. & Christie, D. J. (1988). Teaching about nuclear weapons: the psychological impact. Unpublished Manuscript.

Petersen, A. C., Schulenberg, J. E., Abramowitz, R. H., Offer, D. & Jarcho, H. D. (1984). A self-image questionnaire for young adolescents: reliability and validity studies. Journal of Youth and Adolescence, 13, 93-111.

Schwebel, M. (1982). Effects of the nuclear war threat on chlildren and teenagers: Implications for professionals. American Journal of Orthopsychiatry, 52(4), 608-618.

Suedfeld. P. (1977). Integrative complexity of communications in in international crises. Journal of Conflict Resolution, 21(1), 169-184.

Shribman, D. (July 6, 1983). Reagan accuses NEA of brainwashing efforts, New York Times, p.A12.

Union of Concerned Scientists (1983). Choices: A unit in conflict and nuclear war. National Education Association, Washington DC.

Wagner, R. V. (1988). Distinguishing between positive and negative approaches to peace. Journal of Social Issues, 44(2), 1-17.

Werner, P. D., & Roy, P. J. (1985). Measuring activism regarding the nuclear arms race. Journal of Personality Assessment, 49(2), 181-186.

Yankelovich, D., Kingston, R., & Garvey, G. (1984). (Eds.), Voter Options on Nuclear Arms Policy. New York: The Public Agenda Foundation.

Zweigenhaft, R. L. (1984). What do Americans know about nuclear weapons? Bulletin of the Atomic Scientists, February, 48-49.

Table 1: Units rated most highly by curriculum consultants

Unit	Author(s)
Variable: Ethnocentrism	
Teaching About Cultural Awareness	Smith & Otero (1985, pp. 5-35)
PEN COPRED (Peace Education Network: Consortium on Peace Research, Education & Development)	McGinnis (1985, pp. 1-5)
Variable: Political Efficacy	
Creative Conflict Solving for Kids	Schmidt & Friedman (1985, p. 37)
Choices: A Unit in Conflict and Nuclear War	Union of Concerned Scientists (1983, pp. 33-78)
Alternatives to Violence	Bickmore (1987, pp. 26-32)
Variable: Prosocial Orientation	
Crossroads: Quality of Life in a Nuclear World	French & Phillips (1983, pp. 1-48)
International Law in a Global Age	Constitutional Rights Foundation (1985, pp. 1-29)
Teaching about Human Rights	Shiman (1988, pp. 3 & 5)
Variable: Conflict Resolution Skills	
Conflict Resolution: A Secondary School Curriculum	Community Board Program (1987, 5-1 to 5-64)
Choices: A Unit in Conflict and Nuclear War	Union of Concerned Scientists (1983, pp. 26-32)